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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/743,745
Filing Date: December 24, 2003
Appellant(s): YASUOKA ET AL.

Ronald J. Kubovcik
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 20 April 2009 appealing from the Office action mailed 20 August 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 5,964,968	Kaneko	10-1999
US 5,283,139	Newman et al.	02-1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 9-16 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968).

In regards to claims 1-4 and 13-16, Kaneko ('968) discloses a hydrogen absorbing alloy of the form $(R_{1-x}L_x)(Ni_{1-y}M_y)_z$, where R stands for the elements La, Ce, Pr, Nd, or mixtures thereof; L stands for Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, Mg, Ca, or mixtures thereof; M stands for Co, Al, Mn, Fe, Cu, Zr, Ti, Mo, Si, V, Cr, Nb, Hf, Ta, W, B, C, or mixtures thereof; and x, y, and z satisfy the formulae of $0.01 \leq x \leq 0.1$, $0 \leq y \leq 0.5$, and $4.5 \leq z \leq 5.0$. The hydrogen storage alloy would be used as the anode (negative electrode) in a battery (col. 3, lines 28-48). The battery would be composed of an electrolytic solution (alkaline) (col. 3, lines 10-20 and Example I) and a cathode (positive electrode).

With respect to the recitation "a mole ratio of La in said at least one element

Art Unit: 1793

selected from rare earth elements is not greater than 0.5", it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Saklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. *In re Austin, et al.*, 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select the desired amounts of lanthanum and other rare earth elements from the ranges disclosed by Kaneko ('968) such that the ratio would be satisfied because Kaneko ('968) discloses the same utility (hydrogen storage alloy) throughout the disclosed ranges. Additionally, Kaneko ('968) discloses Examples where the La:Ce ratio is 0.5 (col. 6, lines 30-65).

In regards to claims 9-12 and 21-24, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery wherein the average particle size would be in the range of 20 to 100 μm (col. 9, lines 1-17 and Example I), which overlaps the claimed average particle size of the instant invention, which is a *prima facie* case of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed particle size from the particle size disclosed by Kaneko ('968) because Kaneko ('968) discloses the same utility throughout the disclosed ranges.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968), as applied to claim 13 above, and further in view of Newman et

al. (US 5,283,139).

In regards to claim 25, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery as shown above, but Kaneko ('968) does not specify wherein the amount of alkaline electrolyte would be 0.31 ml or less per gram of the hydrogen absorbing alloy.

Newman et al. ('139) discloses, in the same field of endeavor, that reducing the amount of electrolyte in a battery would effectively increase the density and this increase in density would yield a higher battery discharge and increase overall cell performance (col. 3, lines 7-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the electrolyte volume, as disclosed by Newman et al. ('139), when using a hydrogen absorbing alloy in a battery, as disclosed by Kaneko ('968), in order to effect a higher battery discharge and increase overall cell performance because increasing the effective density (by reducing the electrolyte) would be a result-effective variable in achieving a desired battery discharge, as disclosed by Newman et al. ('139) (col. 3, lines 7-68). See MPEP 2144.05 II.

(10) Response to Argument

The Appellant's arguments have been fully considered but are not persuasive.

First, the Appellant primarily argues that Kaneko ('968) has an AB₆ (LaNi₅) structure, which by definition, does not include alloys of the present invention which

Art Unit: 1793

have an $AB_{x'}$ structure where x' is 2.8-3.9 and Kaneko ('968) cannot be properly modified to include alloys having an $AB_{x'}$ structure where x' is 2.8 to 3.9 in which crystals have a $LaNi_5$ type single phase structure (a crystalline structure of the AB_3 or $AB_{2.5}(Ce_2Ni_7)$ type).

In response, the Examiner notes that the features upon which Appellant relies (i.e., a $LaNi_5$ type single phase structure, a crystalline structure of the AB_3 or $AB_{2.5}(Ce_2Ni_7)$ type structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, in the hydrogen absorbing alloy of Kaneko ('968) wherein the alloy has the form $(R_{1-x}L_x)(Ni_{1-y}M_y)_z$, where R stands for the elements La, Ce, Pr, Nd, or mixtures thereof; L stands for Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, Mg, Ca, or mixtures thereof; M stands for Co, Al, Mn, Fe, Cu, Zr, Ti, Mo, Si, V, Cr, Nb, Hf, Ta, W, B, C, or mixtures thereof; and x, y, and z satisfy the formulae of $0.01 \leq x \leq 0.1$, $0 \leq y \leq 0.5$, and $4.5 \leq z \leq 5.0$, the Examiner notes that the range of the subscript of Ni would be from 2.5 to 5 and would therefore encompass the range of 2.8 to 3.8 for Ni as argued by the Appellant. This position is further supported by the disclosure of Kaneko ('968) at column 7, lines 57-64. "[T]he structure of the obtained alloy becomes two phase structure composed of crystal grains of $LaNi_5$ type structure and crystal grains of Ce_2Ni_7 type structure". The Appellant has not shown that the instant invention would necessarily have a different structure than that of Kaneko ('968).

Second, the Appellant primarily argues that the facts noted by the Examiner in the Advisory Action do not support a *prima facie* case of obviousness of the hydrogen absorbing alloy of the present invention because there is no explanation of the relevance of the ranges for the Ni subscript and M subscript; only the value of “z” has relevance to the crystal structure; Kaneko ('968) discloses that when LaNi_5 single phase structure is not obtained, battery life is shortened (column 4, lines 58-61) and thus values of “z” of less than 4.5 are excluded in Kaneko ('968); and the structures other than the LaNi_5 single phase structure and shorter battery life rebuts the implicit suggestion by the Examiner that values of “z” less than 4.5 represent an optimum working range.

In response, the Examiner notes that the features upon which Appellant relies (i.e., a LaNi_5 type single phase structure, a crystalline structure of the AB_3 or $\text{AB}_{2.5}(\text{Ce}_2\text{Ni}_7)$ type structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, just because Kaneko ('968) teaches that shorter battery life occurs when alloys having structures other than single phase LaNi_5 is used does not necessarily mean that the battery of the broad disclosure of Kaneko ('968) would be inoperable if a battery having a structure other than single phase LaNi_5 is used. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use. MPEP 2123 II.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jessee Roe/

Examiner, Art Unit 1793

Conferees:

/Roy King/

Supervisory Patent Examiner, Art Unit 1793

/Stanley Silverman/

Supervisory Patent Examiner, Art Unit 1793